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February 3, 1994

10 CFR Part 2
Appendix C

U S Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

PRAIRIE ISLAND NUCLEAR GENERATING PLANT
Docket Nos. 50-282 License Nos. DPR-42
50-306 DPR-60

Response to Notice of Violation
NRC Inspection Report No. 306/93021(DRP)
Control of Outage Activities

Your letter of January 5, 1994, which transmitted Inspection Report No. 50-306/93021(DRP), required a response to the Notice of Violation. Responses specific to the violations are presented in the attachment. Following that, a summary response to concerns outlined in your letter is presented.

In this letter we have made new NRC commitments which are identified as such in the attachment as the statements which are in italics.

Please contact Jack Leveille (612-388-1121, Ext. 4662) if you have any questions related to our response to the subject inspection report.

Roger O. Anderson

Roger O Anderson
Director
Licensing and Management Issues

c: Regional Administrator III, NRC
Senior Resident Inspector, NRC
NRR Project Manager, NRC
J E Silberg

Attachment: Response to Inspection Report

JE01

RESPONSE TO INSPECTION REPORT

Violations

During an NRC inspection conducted on December 6 through 22, 1993, four violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," 10 CFR Part 2, Appendix C, the violations and our responses are listed below:

Violation 1

> Criterion V of 10 CFR 50, Appendix B requires that activities affecting quality be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings. Establishing and maintaining the integrity of the reactor coolant system (RCS) pressure boundary are activities affecting quality.
>
> Contrary to the above, Procedure 2D8, Revision 3, "Filling and Venting the Reactor Coolant System," which identifies specific valves that must be isolated before proceeding with filling and venting the reactor coolant system, via Procedure Checklist D8-2, "Reactor Coolant System Filling and Venting System Prestart Checklist," was not appropriate to the circumstances of its use, in that it omitted RCS pressure boundary motor-operated valve MV-32208. This omission contributed to the overpressurization of safety injection system piping that occurred on December 1, 1993.
>
> This is a Severity Level IV Violation (Supplement I).

Response to Violation #1

BACKGROUND

Checklist D8-2 was performed in preparation for filling and venting the Unit 2 RCS. MV-32208 had been isolated (opened) for preventive maintenance. Control room operators were not aware that MV-32208 was open when they began filling the RCS until it was water-solid and began increasing pressure. After RCS pressure was increased to about 240 psig, it was realized that the safety injection pump suction relief valve was discharging. The improper status of MV-32208 was then discovered and corrected.

Reason for the Violation

Reasons for the violation are:

The checklist for establishing plant conditions for filling and venting the RCS was inadequate; MV-32208 did not appear on the D8-2 checklist. Instead, the checklist depends partly on use of another procedure to determine system status.

Work planning was inadequate in that a work activity was allowed to be scheduled which conflicted with the filling and venting operation.

Corrective Steps Taken and Results Achieved

RCS filling and venting operations were suspended while outage activities were reviewed.

Procedure 2D8 was temporarily modified to verify that MV-32208 and similar valves were in the closed position prior to pressurizing the RCS for filling and venting. This was completed on December 4, 1993.

Checklists D8-1 and D8-2 have been quarantined to assure that a filling and venting operation cannot be performed until the necessary revisions are made.

Corrective Steps to be Taken to Avoid Further Violations

Procedures 1D8 and 2D8 and their associated checklists will be reviewed and revised to verify all boundary valves are in their proper positions prior to pressurizing the RCS for filling and venting. The procedures and associated checklists will not rely on other activities to control the plant configuration, but rather will verify all boundary valves to be in the correct position. This action will be completed before the next refueling outage, scheduled for May 1994.

Changes in the outage planning and control process are discussed below in our Summary Response.

Date When Full Compliance Will Be Achieved

Full compliance has been achieved.

Violations 2, 3, and 4

Violations 2, 3 and 4 pertain to a single event. The event description (from Unit 2 LER 93-004) is given first, then the three violations are listed, and one combined response is given.

EVENT DESCRIPTION

On November 17, 1993, Unit 2 was in cold shutdown for refueling. The Unit 2 core had been unloaded, and maintenance and testing activities were in progress. Work had begun on isolation and repair of MV-32151, No. 22 Fan-Coil Unit Cooling Water Outlet. See Figure 1. The work request required No. 22 and No. 24 Fan- Coil Units (FCU) to be isolated and drained. Cooling water to both FCU's was isolated by closing manual valves 2CL-100-2, 2CL- 100-4 and CW-60-4. Motor valves MV-32387, MV-32151, MV-32150, MV-32157, MV-32156 and MV-32389 were opened. Cooling water supply and return line vents and drains were then opened to allow draining of the isolated header.

After draining was complete, the work request specified the motor valve alignment for "Refueling Integrity," which establishes status of the containment boundary for fuel handling. It was anticipated that core reloading would begin before repair of MV- 32151 was complete. The alignment specified was MV-32387, MV- 32150 and MV-32156 closed and their handwheels safety tagged, and power supplies off and safety tagged.

On November 19, the valve bonnet and internals for MV-32151 were removed for inspection and repair.

On November 23, in preparation for core reload, equipment alignment checklist C19.9-2 was completed to establish the containment boundary for "Refueling Integrity." Core reload operations began at 1023 on November 23, 1993.

At 0940 on November 24, 1993, with core reloading still in progress, a Quality Control inspector noted that air was coming from the open valve body of MV-32151. The inspector called the control room to report his observation. Investigation showed that MV-32150 was open and allowing air to flow from containment to the Auxiliary Building. MV-32150 was immediately closed manually. MV-32156 was then checked and also found open; it too was immediately closed manually, and "Refueling Integrity" was established. MV-32387 was also checked and found open and was manually closed.

The valves that were left open did not provide a path to the outside environment, but rather provided a path from containment to an area within the Auxiliary Building Special Ventilation System (ABSVS) boundary. That system was available to filter any potential radioactive release. The Prairie Island USAR takes no credit for containment isolation or ABSVS filtration in demonstrating that a fuel handling accident will result in an offsite dose within 10CFR100 limits.

Violation 2

> Section 3.8.A.1 of the Technical Specifications requires, in part, that during core alterations, "The equipment hatch and at least one door in each personnel air lock shall be closed. In addition, at least one isolation valve shall be operable or locked closed in each line which penetrates the containment and provides a direct path from containment atmosphere to the outside."
>
> Contrary to the above, on November 23, 1993, core alterations commenced when a direct path from the containment atmosphere to the outside (in this case the Auxiliary Building) existed through penetration No. 38B because valve MV-32150 was open.
>
> This is a Severity Level IV Violation (Supplement I).

Violation 3

Criterion V of 10 CFR 50, Appendix B requires that activities affecting quality be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings. Containment boundary equipment isolation is an activity affecting quality. Section 6.6.3 of Administrative Work Instruction 3.10.3, "Use of NSP Safety Tags," states that when performing an equipment isolation, "Operators or other authorized plant personnel shall place switches, valves, etc. in the required position, complete and install the safety tags."

Contrary to the above, on November 17, 1993, an operator installed safety tags on motor-operated valves MV-32387, MV- 32150, and MV-32156, when they were containment boundary components, per work request U2156-ZC-Q, without placing the valves in the required position.

This is a Severity Level IV Violation (Supplement I).

Violation 4

Criterion V of 10 CFR 50, Appendix B requires that activities affecting quality be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings. Containment boundary equipment position verification is an activity affecting quality.

Contrary to the above, Procedure C19.9, Revision 0, "Inventory and Refueling Integrity Boundary Control," which requires independent verification of the isolation status for each Containment Building penetration via Procedure Checklist C19.9-2, "Inventory and Refueling Integrity Containment Boundary Checklist - Unit 2," was not appropriate to the circumstances of its use in that it did not require independent verification of isolation status for penetrations controlled with an alternate isolation. This omission contributed to the failure to establish refueling integrity conditions prior to initiating core alterations on November 23, 1993.

This is a Severity Level IV Violation (Supplement I).

Response to Violations 2, 3 and 4

Reason for the Violations

The violations were caused by personnel errors and procedural inadequacies. Motor valve tagging instructions and operator training were not adequate. Checklist C19.9-2 allowed the alternate isolation to be dictated by the work request. The computerized safety tagging system used by the work request automatically flags equipment requiring independent verification. Due to

omissions in the data base, only motor valve breaker positions are flagged, and not the actual valve positions.

Corrective Steps Taken and Results Achieved

Upon discovery that MV-32150 was open, it was closed manually. MV-32156 was then checked and also found open; it too was closed manually, placing the unit in compliance with Technical Specification 3.8.A.1. MV-32387 was also checked and found open and manually closed.

The General Superintendent of Plant Operations issued a memorandum to the operations staff outlining instructions for determining position of and tagging of motor-operated valves.

Procedure C19.9 and associated checklists have been quarantined to assure they cannot be used until necessary revisions are made.

Corrective Steps to be Taken to Avoid Further Violations

Motor valve tagging practices are under review. *Motor valve tagging procedures will be revised, and operators trained on those procedures, before the next refueling outage, scheduled for May 1994.*

Procedure C19.9, Inventory and Refueling Integrity Boundary Control, and its associated checklists are under review. *The procedure will be revised to incorporate a more consistent approach to control of the containment boundary. Training on the revised procedure will be conducted for Operations, Maintenance, and Engineering personnel. These actions will be complete before the next refueling outage, scheduled for May 1994.*

A new safety tag system is being developed on the plant's new information computer. This action will be complete before the next refueling outage, scheduled for May 1994.

Date When Full Compliance Will Be Achieved

Full compliance has been achieved.

Summary Response

Your letter identified 6 concerns related to refueling outage activities. Three of those are in the area of outage management and 3 are in the area of human performance. Our response to your concerns in those two areas is given below.

OUTAGE MANAGEMENT

The inspection focused on four events that occurred during the Unit 2 refueling outage. These four events had a common attribute: all were tasks

that had been scheduled before the outage and then rescheduled during the outage to account for changing requirements or conditions. Though there were many tasks that were rescheduled without incident, these four did present difficulties.

A process is being developed which will place individual outage tasks into outage "windows." By adding outage window constraints to the work package, the work control process will contain an informative tracking method indicating in which outage window the work may or may not be performed. Prior to moving from one outage window to the next, a formal review of outstanding work will be done. This process will help operations maintain awareness of overall plant conditions before performing critical evolutions and will improve communications between work groups. *This process will be established before the next refueling outage, scheduled for May 1994.*

HUMAN PERFORMANCE

Many observations of worker practices were conducted during and shortly after the refueling period. These were conducted for self-assessment purposes. These observations, and other self-identified occasions where performance was not up to expectations, including those identified in the inspection report, were evaluated. The evaluations concluded that, generally, the work force does have a questioning attitude and pays attention to detail. An indication of this is that of the four events detailed in the inspection report, only one was self-revealing. Investigation of the other events was prompted by the questioning attitude of the site staff. These comments notwithstanding, efforts will continue to improve the 'questioning attitude and attention to detail culture' of the site. *Site management will reinforce expectations at work group meetings. A videotape (which was already under development) concerning pre-job briefings, questioning and self-checking will also be presented to site personnel. Prairie Island's conservative operating philosophy will be reinforced in meetings with operations personnel. These actions will be complete before the next refueling outage, scheduled for May 1994.*

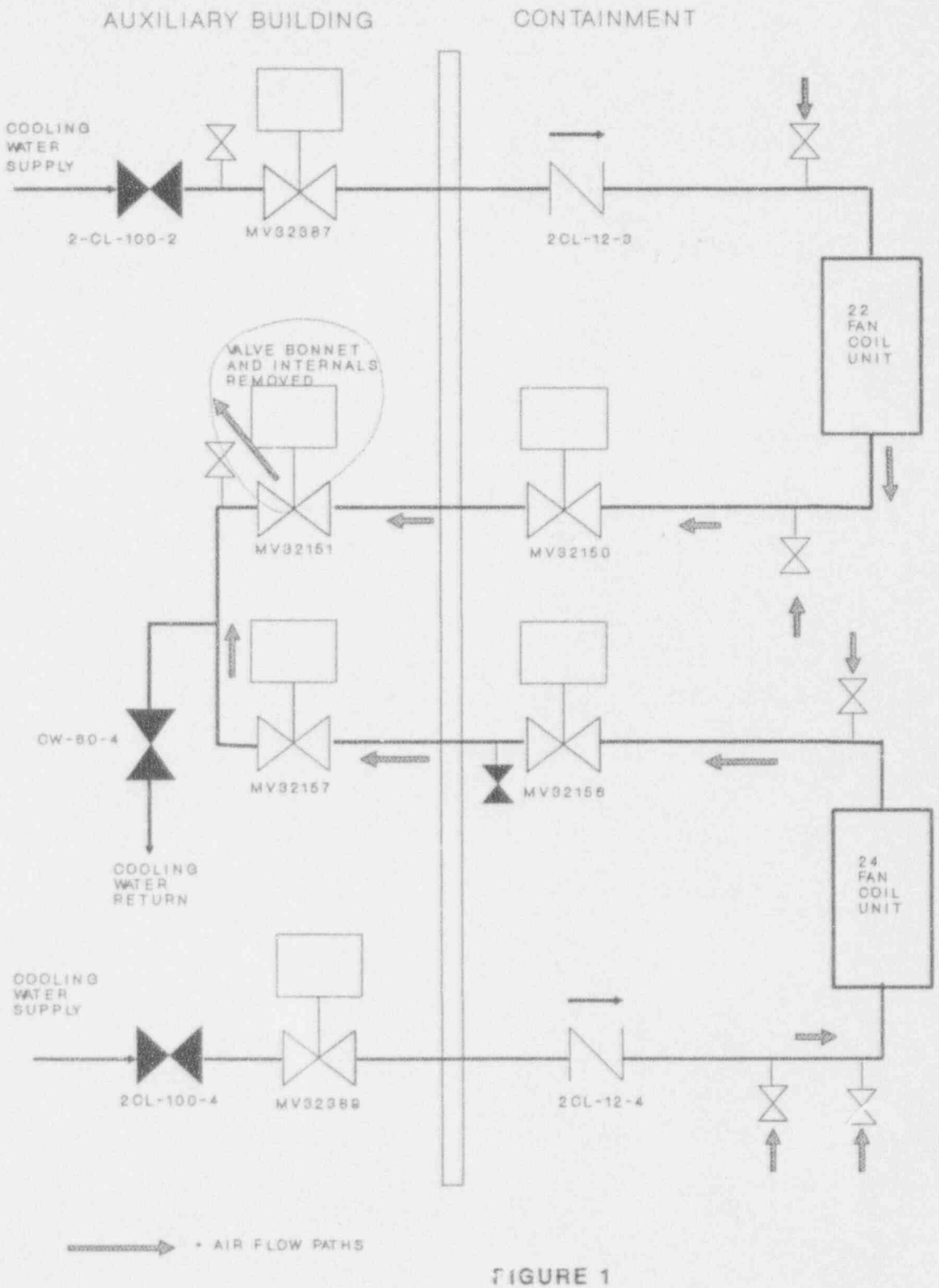

FIGURE 1
SIMPLIFIED FLOW DIAGRAM